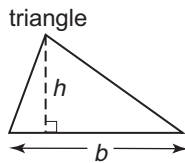


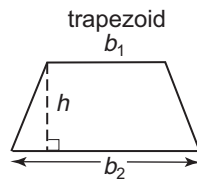
## Study Guide

**Area of Triangles, Rhombi, and Trapezoids**

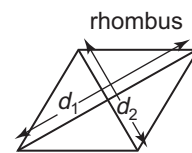
Formulas for the areas of triangles, trapezoids, and rhombi can be obtained from the formula for the area of a parallelogram.



$$A = \frac{1}{2}bh$$



$$A = \frac{1}{2}h(b_1 + b_2)$$



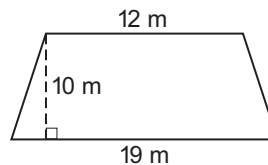
$$A = \frac{1}{2}d_1d_2$$

**Example:** Find the area of the trapezoid.

$$A = \frac{1}{2}h(b_1 + b_2)$$

$$A = \frac{1}{2}(10)(12 + 19)$$

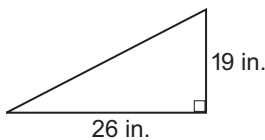
$$A = 155$$



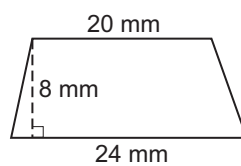
The area is 155 square meters

**Find the area of each figure.**

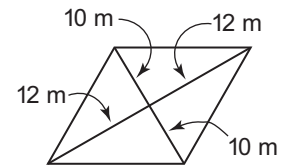
1.



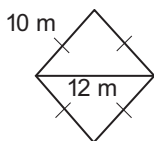
2.



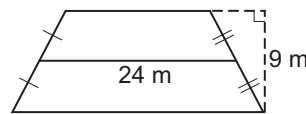
3.



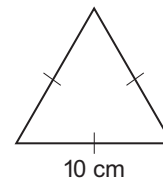
4.



5.



6.



7. The area of a triangle is 150 square inches. If the height is 20 inches, find the length of the base.

8. A rhombus has a perimeter of 100 meters and a diagonal 30 meters long. Find the area of the rhombus.

## Practice

### ***Area of Triangles, Rhombi, and Trapezoids***

***Find each missing measure.***

1. The area of a triangle is 216 square units. If the height is 18 units, what is the length of the base?
2. The diagonals of a rhombus are 21 and 16 centimeters long. Find the area of the rhombus.
3. The area of a trapezoid is 80 square units. If its height is 8 units, find the length of its median.
4. The height of a trapezoid is 9 cm. The bases are 8 cm and 12 cm long. Find the area.
5. A trapezoid has an area of  $908.5 \text{ cm}^2$ . If the altitude measures 23 cm and one base measures 36 cm, find the length of the other base.
6. The measure of the consecutive sides of an isosceles trapezoid are in the ratio 8:5:2:5. The perimeter of the trapezoid is 140 inches. If its height is 28 inches, find the area of the trapezoid.